

REMARKS

Claims 1-25 remain in the case. Claims 1-25 stand rejected. However, no specific rejection is provided as to claim 15.

EXPLANATION OF THE AMENDMENTS

The proposed amendments to claims 1, 16, 17, 24, and 25 are submitted in order to more clearly claim the subject matter of the present invention as set forth in the specification. In particular, the proposed amendments to claims 1, 17, and 25 clarify the presence of an insulating undercoat interposed between the substrate and the electrical contact pads. The insulating undercoat is discussed throughout the specification and specifically shown in Figures 1-3 and 6. The claims are further amended to clarify that the material selected to have a low dielectric constant is interposed between the electrical contact pad and the insulating undercoat. These proposed amendments do not change the previous understanding that the material selected to have a low dielectric is interposed between the pad and the substrate. The amendments do, however, acknowledge the presence of the insulating undercoat, in addition to the material selected to have a low dielectric, interposed between the electrical contact pad and the substrate.

The proposed amendment to claim 16 clarifies that the undercoat layer, i.e. alumina (Al_2O_3) or silicon dioxide (SiO_2), formed on the substrate is an *insulating layer* rather than a *conducting layer*. Referring to Figure 1, the specification states that “the dielectric material 108 typically comprises Al_2O_3 .” (page 7, line 7). In another embodiment, shown in Figure 6, the specification states that “the alumina undercoat 608 . . . may also comprise silicon oxide (SiO_2).” (page 10, lines 21-22). It is obvious that, in this embodiment, the term “alumina undercoat” does not exclusively refer to Al_2O_3 , but rather is used generically to refer to an insulating

undercoat formed from a dielectric material, including silicon dioxide (SiO_2). As dielectric materials are inherently insulating materials, and given that the conducting stud is specified to connect the contact pads to the insulating undercoat (page 10, lines 9-13), claim 16 is amended to clarify that the layer formed over the substrate and with which the conducting studs make contact is an *insulating layer* rather than a *conducting layer*.

As mentioned above, certain descriptions in the specification employ a generic understanding of the term “alumina undercoat” to refer to an insulating undercoat that may or may not comprise aluminum oxide (Al_2O_3). The proposed amendment to claim 24 clarifies that the undercoat layer comprising (SiO_2) is an insulating layer. While Applicants intended the previous reference to “alumina undercoat” to refer to an insulating layer in general, the proposed amendment clarifies that the undercoat need not be exclusively alumina, but may be another comparable insulating material. In keeping with the specification, the thickness of the insulating layer—whether alumina, silicon dioxide, or another insulating material—may be increased in order to reduce parasitic capacitance effects. (page 10, lines 15-23).

CLAIM REJECTIONS UNDER 35 U.S.C. § 102(b)

Specifically, claims 1, 2, 6, 7, 14, and 23-25 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Takeura et al. (U.S. Patent No. 4,807,073). Applicants respectfully traverse this rejection as set forth below.

The Office Action states that claims 1 and 23-25 are anticipated by Figure 5 and the accompanying description in Takeura. Applicants respectfully assert that the cited reference does not anticipate these claims. Claim 1, as clarified in the proposed amendment, includes a material selected to have a low dielectric which is interposed the electrical contact pad and the

insulating layer. Takeura's description of Figure 5 does not disclose such material so interposed.

The Office Action states that Takeura discloses the material selected to have a low dielectric of the present invention in the form of the insulating film 13 of the prior art. If this were the case, Takeura provides no disclosure of the insulating undercoat as provided in the amended claim. Alternately, if the insulating film in Takeura were the insulating undercoat of the present invention, Takeura fails to disclose the material selected to have a low dielectric of the presently claimed invention. Either way, the cited reference in Takeura fails to disclose all of the features of claim 1, as amended, and therefore does not anticipate the invention of claim 1.

With regard to claims 23 and 24, Takeura also fails to disclose a layer of alumina or silicon dioxide, respectively, interposed between the electrical contact pad and the undercoat layer as claimed. The interposed layer effectively increases the thickness of the insulating layer as described in one embodiment of the present application. (page 10, lines 15-23). The cited figure and accompanying reference in Takeura fail to provide any disclosure about the thickness of the insulating film, especially as it relates to capacitive coupling between the substrate and the signal leadout conductor. Takeura, therefore, fails to anticipate all of the features of claims 23 and 24.

With regard to claim 25, Applicants respectfully assert that the traversal of the rejection follows the same reasoning as presented above with regard to claim 1.

CLAIM REJECTIONS UNDER 35 U.S.C. § 103(a)

Claims 3-5, 8-13, and 16-22 (and presumably claim 15) stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Takeura in view of Jursich (U.S. Patent No. 5,048,175).

Applicants respectfully traverse this rejection as set forth below.

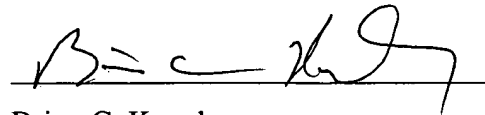
With regard to claims 16 and 17, Applicants respectfully assert that the traversal of the rejection follows the same reasoning as presented above with regard to claim 1 because claims 16 and 17 essentially, if not literally, incorporate all of the features of claim 1.

CONCLUSION

As a result of the presented amendments and remarks, Applicants assert that independent claims 1, 16, 17, and 22-25 are in condition for prompt allowance. Consequently, dependent claims 3-15, and 18-21, which depend from these independent claims, are also in condition for prompt allowance.

Should additional information be required regarding the amendment or traversal of the rejections of the independent and dependent claims enumerated above, the Examiner is respectfully asked to notify Applicants of such need. If any impediments to the prompt allowance of the claims can be resolved by a telephone conversation, the Examiner is respectfully requested to contact the undersigned.

Respectfully submitted,



Brian C. Kunzler

Reg. No. 38,527

Attorney for Applicants

Date: December 29, 2003
8 East Broadway
Suite 600
Salt Lake City, UT 84101
Telephone (801) 994-4646
Fax (801) 531-1929